

Claims

1. A process for producing an electrode which comprises forming an electrode precursor comprising a layer  
5 comprising an intercalation material, and then applying stabilised lithium metal particles to the surface of the electrode precursor.
2. A process according to claim 1 wherein the particles  
10 are applied to the anode.
3. A process according to any one of the preceding claims wherein the particles are suspended in a liquid for application to the electrode precursor.  
15
4. A process according to claim 1 or 2 wherein the particles are formed into a slurry or suspension and dispersed over the electrode precursor.
- 20 5. A process according to claim 1 or 2 wherein the particles are applied by electrostatic transfer.
6. A process according to any one of the preceding claims wherein the particles are fixed to the electrode  
25 surface by rolling.
7. A process according to any one of the preceding claims wherein the stabilised lithium metal particles are mixed with carbon particles.  
30
8. A process according to any one of the preceding claims wherein the electrode precursor is a composite electrode precursor comprising an active material and a binder, and prepared using a solvent for the binder.  
35

- 14 -

9. A process according to claim 10 wherein the active material is carbon.

10. A process according to claim 10 or 11 wherein the  
5 binder is polyvinylidene fluoride (PVdF).

11. A process according to any of claims 8 to 10 wherein the process for producing the electrode precursor comprises the steps of

10

i) mixing the active material, binder and solvent together to achieve a uniform mix

ii) coating the mixture onto a thin copper foil,  
15 with controlled evaporation of the solvent

iii) drying the electrode

iv) calendaring the electrode, and

20

v) vacuum drying the electrode,  
before applying the stabilised lithium metal powder to the electrode precursor.

25 12. An electrode comprising an intercalation material and a surface coating of stabilised lithium metal particles.

13. A process for producing a separator for use in a  
30 cell comprising an intercalation material which process comprises forming a separator precursor and applying stabilised lithium metal particles to the surface of the separator precursor.

35 14. A process according to claim 13 wherein the

particles are suspended in a liquid for application to the separator precursor.

15. A process according to claim 13 wherein the  
5 particles are formed into a slurry or suspension and dispersed over the separator precursor.

16. A process according to claim 13 wherein the  
particles are applied by electrostatic transfer.  
10

17. A separator for use in a cell comprising an  
intercalation material which separator comprises a  
separator precursor and a surface coating of stabilised  
lithium metal particles.  
15

18. A cell comprising an electrode produced according to  
any one of claims 1 to 11.

19. A cell comprising an electrode according to claim  
20 12.

20. A cell comprising a separator produced according to  
any one of claims 13 to 16.

25 21. A cell comprising a separator according to claim 17.

22. A battery comprising one or more cells according to  
any one of claims 18 to 21.